POLAND / Chemical Technology. Chemical Products and Their Applications. Safety and Sanitation. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 12251.

Author : Rusiecki, Wladyslaw; Kubalski, Jan.
Inst : Not given.
Title : Modification in Determining Carbon Dioxide in the Air.

Orig Pub: Farmac. polska, 1957, 13, No 8, 206-207.

Abstract: A method is described of determining the CO_2 content in the air which is based on its absorption by a 5% solution of $Ba(OH)_2 \cdot 8H_2O$ through drawing out large quantities of the investigated air (10-20 l) and titrating the surplus of a n. solution of $Ba(OH)_2$ 0.1 with a solution of oxalate with phenolphthalein. The optimal rate for drawing

Card 1/2

CZECHOSLOVAKIA / Chemical Technology. Chemical Products H
and Their Applications. Safety and Sanitation.

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 12247.

Abstract: organism). Instruments are described for the selection of air samples and for the concentration of radioactive substances by methods of filtration, evaporation, combustion and others. The most effective method is considered to be that of determining the R of precipitated aerosols and rainfall which is widely used in Czechoslovakia. Bib. 9 titles. -- T. Brzhevskaya.

Card 2/2

RUSIECKI, Wladyslaw

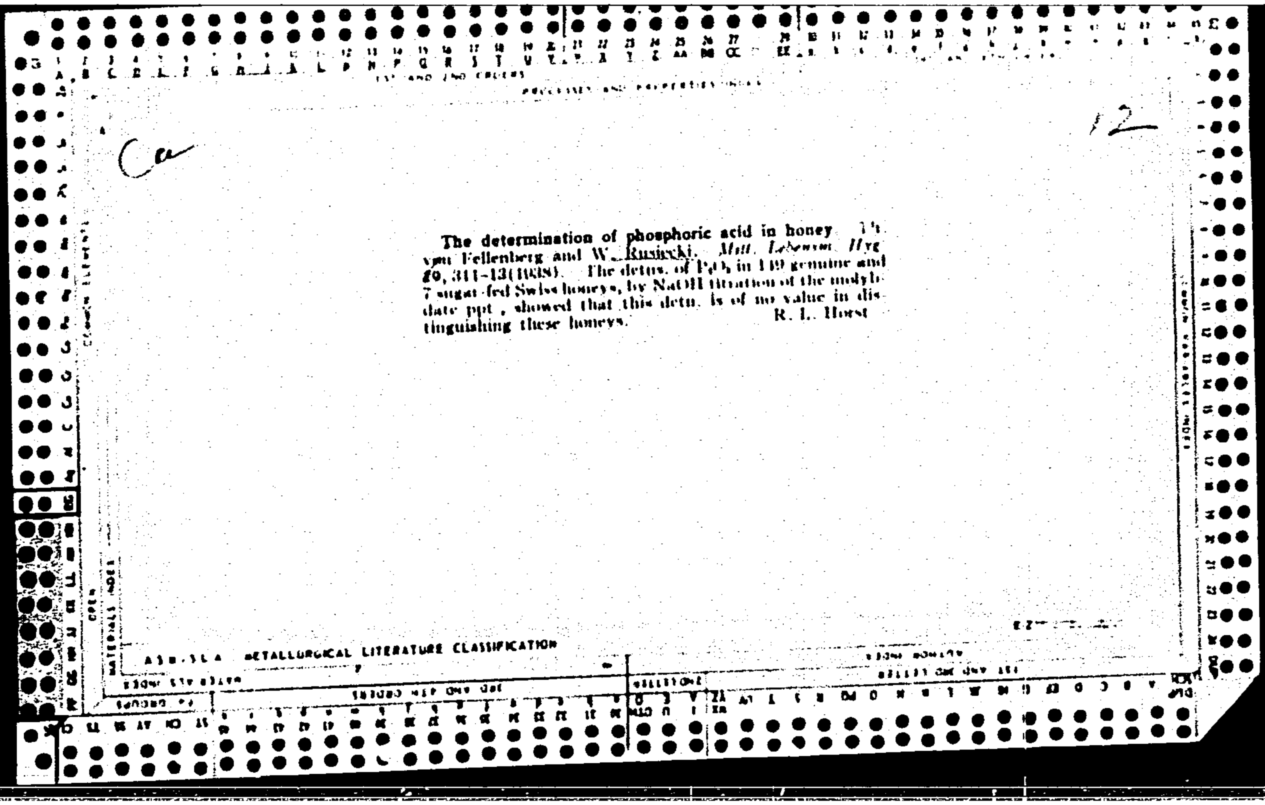
Pharmaceutic conferences. Acta Poloniae pharm. 11 no.4:273-275
1954.
(PHARMACY,
in Poland, conf.)

RUSIECKI, Wladyslaw
SURNAME (In Caps); Given Names

①

Country:	Poland
Academic Degrees:	Prof Dr
Affiliation:	Institute of Drugs (Instytut Lekow)
Source:	Warsaw, Farmacja Polska, Vol XVII, No 15-16, 25 August 1961, pp 303-308
Data:	"The European Technical Conference Devoted to the Control of Drugs."

91



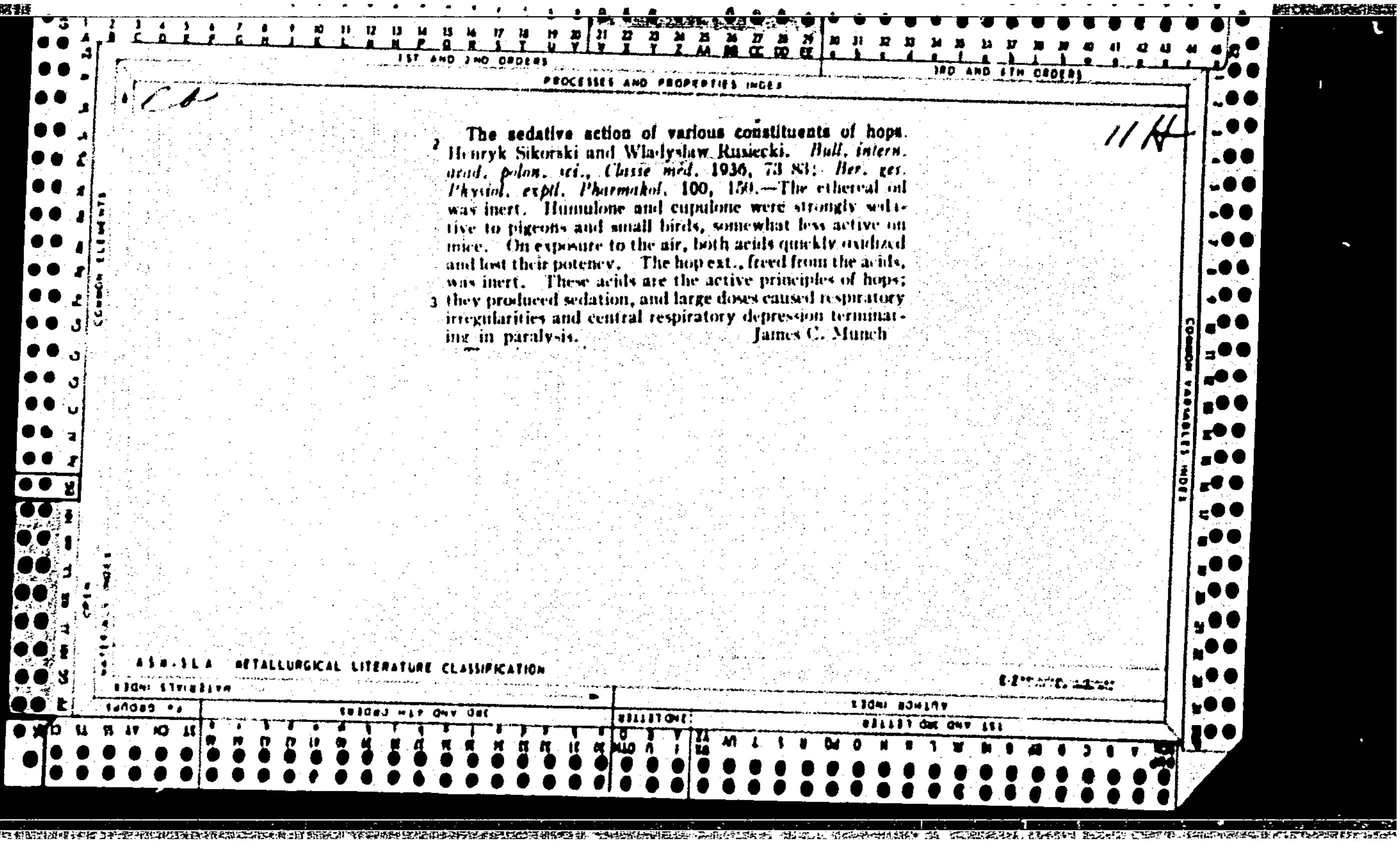
Ca

12

PROCESSES AND PROPERTIES INDEX

The determination of phosphoric acid in honey. Th. von Fellenberg and W. Rusiecki. *Mitt. Lebensm. Hyg.* 29, 311-13(1938). The detns. of P_2O_5 in 119 genuine and 7 sugar-fed Swiss honeys, by NaOH titration of the molybdate ppt., showed that this detn. is of no value in distinguishing these honeys. R. L. Horst

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
COMMON VARIABLES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION
Cl
11 H

2 **The sedative action of various constituents of hops.** Henryk Sikorski and Wladyslaw Rusiecki. *Bull. intern. acad. polon. sci., Classe méd.* 1936, 73-83; *Ber. ges. Physiol. exptl. Pharmakol.* 100, 150.—The ethereal oil was inert. Humulone and cupulone were strongly sedative to pigeons and small birds, somewhat less active on mice. On exposure to the air, both acids quickly oxidized and lost their potency. The hop ext., freed from the acids, was inert. These acids are the active principles of hops;
3 they produced sedation, and large doses caused respiratory irregularities and central respiratory depression terminating in paralysis.

James C. Munch

Rusieshvili, G. I.

3

1-F/W

Rusiechvili, G. I. Some extremal problems of the intrinsic geometry of polyhedrons in Lobatchevsky's space. Vestnik Leningrad Univ. 12 (1957), no. 1, 76-77, 209. (Russian. English summary)

1/1

1. BAUGER, M., KAKASH, Ya., BRAKHACHEK, F., RUSIMOV, A., SHILLER, G.

2. USSR (600)

4. Coal Mines and Mining

7. What we have learned from Soviet miners. Mast. ugl. 1, no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHAYKOV, V., podpolkovnik; RUSIN, A., kapitan

Tactical nuclear weapons in the American army; from the foreign press. Voen.vest. 40 no.4:117-118 Ap '61. (MIRA 14:7)
(United States--Atomic weapons)

RUSIN, Andrzej

Results of bacteriological examination of resection material.
Gruzlica 29 no.7:621-626 Jl '61.

1. Z Laboratorium Bakteriologicznego Dzieciecego Osrodka Sanatoryjno-Prewentoryjnego w Rabce Kierownik Laboratorium: dr med. A. Rusin Dyrektor: lek. J. Rudnik.

(TUBERCULOSIS PULMONARY pathol)

28
27
B

L 24782-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM
ACCESSION NR: AP4049609 S/0076/64/038/011/2674/2675

AUTHOR: Vilkov, L. V.; Gorokhov, L. N. Mastryukov, B. S.; Rusin, A. D.

TITLE: Molecular mass and mass spectrum of the vapors $Ge(C_2H_2)(CH_3)_2$

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 11, 1964, 2674-2675

TOPIC TAGS: molecular mass, $Ge(C_2H_2)(CH_3)_2$, mass spectrum, dimeric molecule, vapor, monomeric ion

ABSTRACT: The authors have investigated the mass spectrum, and determined the molecular mass of the vapors of $Ge(C_2H_2)(CH_3)_2$ with the mass spectrometer MI-1305. The spectrum indicates the presence of dimeric molecules with the mass numbers 252-265, 237-249, 211-223, and 115-121, which are assigned to various ions. Particularly strong is the group of lines 85-91[$Ge(CH_3)^+$-ion]. The monomeric ion was not detected. The average molecular mass is 234. "The author is grateful to M. E. Vol'pin and Dulova for discussions." Orig. art. has: 1 figure.

Card 1/2

L 24782-65
ACCESSION NR: AP4049609

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonova, Khimicheskiy fakul'tet (Moscow State University, Chemistry Department)

SUBMITTED: 14Aug63 ENCL: 00

SUB CODE: ME, GP NO REF SOV: 003 OTHER: 001

Card 2/2

RUSIN, A.D.

USSR/Physical Chemistry - Kinetics, Combustion, Explosions, Topochemistry, Catalysis. B-9

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7221.

Author : V.A. Mal'tsev, A.D. Rusin, V.M. Tatevskiy.
Inst :
Title : To The Question of Spectroscopic Study of Combustion Reaction.

Orig Pub: Zh. fiz. khimii, 1957, 31, No 5, 1175-1176.

Abstract: The changes of the relative concentration of OH radicals in time are shown. These changes were recorded from the absorption spectrum at the explosion of $H_2 + O_2$ mixture on a rapidly moving film.

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Card : 1/1

25721
S/020/61/139/003/020/025
B103/B208

11.2221
11.1280

AUTHORS: Rusin, A. D., and Tatevskiy, Y. M.

TITLE: Nature of green light emission and composition of combustion products of boron at 3100°K

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 3, 1961, 630-633

TEXT: The authors devised a method of determining the nature of fluctuation bands and the combustion products of boron. This method is based on an investigation of the dependence of the absorption in the band 5470 Å on the concentrations of oxygen, water and hydroxyl (OH) during the explosion in a bomb with central ignition (Ref. 10: V. A. Medvedev et al., ZhFKh, 33, No. 1, 58 (1959)). The composition of the products mentioned has never been completely clarified. In the presence of boron, the flame emits an intense spectrum rich in bands in the range of 3700-6800 Å. These "fluctuation bands" were assigned to various molecules such as BO_2, B_2O_3, and H_3BO_3. The explosion spectra were studied in an apparatus which recorded, at the same time, the absorption spectrum and

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Nature of green light emission...

the explosion pressure. The light of an СВДШ-500 (SVDSh-500) mercury lamp entered the bomb through a quartz window, and was focused to the inlet slit of the ДМР-1 (DMR-1) monochromator. The light was modulated by a turntable with a frequency of about 2500 cps between lamp and bomb to eliminate the superposition of the explosion radiation onto the spectrum. At the outlet of the monochromator, there was an ФЗУ-18 (FZU-18) photomultiplier whose signal was transmitted after amplification to two oscilloscopes: (a) a cathode-ray oscilloscope (for visual observation), and (b) a loop oscilloscope (for recording purposes). The intensity of radiation which had passed the bomb, and that of the explosion pressure were continuously recorded on the drum of (b). An ИГИ (IGI) membrane indicator served as transmitter. Mixtures of Co, O_2, H_2, and Ar were burned in the bomb. The temperature T_e and the composition of the combustion products at the moment of attaining the maximum pressure P_e were calculated by known methods (Ref. 11: A. M. Gurvich, Yu. Kh. Shaulov, Termodinamicheskiye issledovaniya metodom vzryva i raschety protsessov goreniya (Thermodynamic studies by the explosion method and calculations of the combustion processes), M. 1955). 0.1-0.3 moles of diborane per

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100 moles were added to the initial mixture which neither affected P_e nor the O_2, H_2O, or OH concentration. The authors studied mixtures of different initial compositions with respect to the dependence of the band 5470 Å on the amount of diborane admixture. Absorption was measured as the moment when maximum pressure of explosion was attained. Fig. 1 shows the oscillogram of pressure and light absorption of one of the experiments. The following compounds may exist in mixtures with diborane admixture: B_2O_3, B_2O_2, BO, BO_2, HBO_2. The concentrations of these products are correlated by four equations for the equilibrium constants and by one equation for the material balance (see Eqs. (1)-(6)).

$$B_2O_3 \rightleftarrows B_2O_2 + {}^1/{}_2\,O_2,\quad K_1 = \frac{m_{B_2O_2} \cdot m_{O_2}^{1/2}}{m_{B_2O_3}} \cdot A^{1}; \tag{1}$$

$$B_2O_2 \rightleftarrows 2BO,\quad K_2 = \frac{m_{BO}^2}{m_{B_2O_2}} \cdot A^2; \tag{2}$$

$$BO_2 \rightleftarrows BO + {}^1/{}_2\,O_2,\quad K_3 = \frac{m_{BO} \cdot m_{O_2}^{1/2}}{m_{BO_2}} \cdot A; \tag{3}$$

$$HBO_2 + OH \rightleftarrows BO_2 + H_2O, \quad K_4 = \frac{m_{BO_2} \cdot m_{H_2O}}{m_{HBO_2} \cdot m_{OH}}; \qquad (4)$$

$$2m_{0\,B_2H_6} = a = 2m_{B_2O_3} + 2m_{B_2O_2} + m_{BO} + m_{BO_2} + m_{HBO_2}, \qquad (5)$$

$$A = \sqrt{\frac{P_0 T_e}{100 T_0}}. \qquad (6)$$

m is the number of moles of the product per 100 moles of the initial mixture. $m_{oB_2H_6}$ is the number of diborane moles, and a the number of gram-atoms of boron both referred to 100 moles of the initial mixture. P_o and T_o denote initial pressure and temperature, respectively. The left-hand side of (1)-(4) contains the values of K_p. A is the transition coefficient of partial pressures to the number of moles. Table 1 contains the initial and the final content of mixtures (boron being not considered). The initial content was calculated in a way that the same end temperature

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$T_e = 3080^\circ K$ was attained for the explosion of each mixture. The purpose of these experiments was to decide whether the fluctuation bands belong to B_2O_3 or to BO_2. The authors used the system of equations (1)-(5), and expressed the concentration of each product m_{BO_2} or $m_{B_2O_3}$ by (a) (see (7) and (8)).

$$a = \left(1 + \frac{K_2}{Am_{O_2}^{1/2}} + \frac{1}{K_4} \cdot \frac{m_{H_2O}}{m_{OH}}\right) m_{BO_2} + \frac{2K_3^2}{K_2} \cdot \frac{1}{m_{O_2}} \left(1 + \frac{Am_{O_2}^{1/2}}{K_1}\right) m_{BO_2}^2, \quad (7)$$

$$a = 2\left(1 + \frac{K_1}{Am_{O_2}^{1/2}}\right) m_{B_2O_3} + \frac{\sqrt{K_1K_2}}{A^{1/2}m_{O_2}^{1/4}} \left[1 + \left(\frac{1}{K_4} \cdot \frac{m_{H_2O}}{m_{OH}} + 1\right) \frac{Am_{O_2}^{1/2}}{K_3}\right] m_{B_2O_3}^{1/2}. \quad (8)$$

For each individual mixture of Table 1, such diborane admixtures were chosen experimentally (a), for which the absorption was the same in all mixtures. Table 2 gives such experimental values of (a). The optical density was 0.434. The authors conclude from Table 2 that there is a linear relationship $a = 0.0544\ m_{H_2O}/m_{OH} + 0.0497$ (9) between the experimental values of (a) and the relation m_{H_2O}/m_{OH}. There is no

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relationship between the experimental values of (a) and m_{O_2}. A comparison of (9) with the theoretical equations (7) and (8) permits the conclusion that (9) will correspond to (7) only if the spectrum is due to the BO_2 radical and if the main products of diborane combustion are BO_2 and HBO_2. In this case, (7) will take the following form: $a = m_{BO_2}/K_4 \cdot m_{H_2O}/m_{OH} + m_{BO_2}$ (10). This, however, corresponds completely to the experimental equation (9). By comparing (9) and (10), K_4 and the absolute concentrations m_{BO_2} and m_{HBO_2}: $K_4 = 0.9$ can be determined. On the other hand, (9) does by no means correspond to Eq. (8). This means that the spectrum observed must not be assigned to the molecule B_2O_3. This is further confirmed by the missing relationship between (a) and m_{O_2}. (9) cannot be explained by the assumption that the spectrum results from the molecules

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Bo or B_2O_3. The results obtained by the authors thus confirm the conclusions drawn by A. A. Mal'tsev and V. M. Tatevskiy (1958) [Abstracter's note: no reference] and by W. E. Kaskan and R. C. Millikan (Ref. 6: J. Chem. Phys., 32, No. 4, 1273 (1960)), according to which the fluctuation bands are caused by the BO_2 radical. The most important boron-containing combustion products were found to be HBO_2 and BO_2 under the conditions of the authors' experiment at 3080°K. The personnel of the laboratory of the Institut goryuchikh iskopayemykh AN SSSR (Institute of Mineral Fuels AS USSR) is thanked for supplying the spherical bomb, V. A. Medvedev, Academician, Ye. I. Cherenkov, and G. A. Bergman for assistance and discussion of the results. There are 2 figures, 2 tables, and 11 references: 7 Soviet-bloc and 4 non-Soviet-bloc. One reference to English-language publications is given in the text, two others read as follows: Singh (Ref. 2: Proc. Ind. Acad. Sci., A 29, 424 (1949)); Ref. 3: J. R. Saulen et al. J. Phys. Chem., 59, 132 (1955).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: February 28, 1961, by V. N. Kondrat'yev, Academician

Card 7/10

RUSIN, A. D.; TATEVSKIY, V. M.

Heat of formation of the BO_2 radical. Zhur. fiz. khim. 37 no. 3:716-717 Mr '63. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 62706-65 EWA(h)/EWT(m)/EWP(i)/EWP(b)/EWP(e)/EWP(t) Peb IJP(c) JD
ACCESSION NR: AP5020556 UR/0294/65/003/004/0547/0554
536.461:546.27

24
23
B

AUTHOR: Rusin, A. D.; Tatevskiy, V. M.

TITLE: Composition of the products of boron combustion at 3000—3200K and the heat of formation of BO_2

21

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 4, 1965, 547-554

TOPIC TAGS: boron combustion, combustion product, boron compound fuel, boron dioxide, heat of formation, boron compound

ABSTRACT: To determine the composition of the combustion products and heat of formation of BO_2, mixtures containing H_2, O_2, CO, Ar, N_2, and small amounts (0.0019—0.0065 mol%) of B_2H_6 were detonated in a spherical bomb 267 mm in diameter, and the maximum pressures and optical densities of the gaseous combustion products were measured. Compositions of the mixtures were adjusted to give an average maximum temperature for 28 experiments of 2971 ±12K in the first series of experiments and 3186 ±16K in the second series of 35 experiments. Concentrations of the combustion product components were also calculated for temperatures ranging from 2800 to 3200K. Analysis of the tabulated experimental results showed that in the tem-

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ACCESSION NR: AP5020556

perature range of 3000—3200K, the gaseous combustion products contain mainly BO_2 and HBO_2. The heat of formation of BO_2, calculated from the experimental data obtained, was found to be -68 ±7 kcal/mol. Orig. art. has: 6 tables and 10 formulas. [PS]

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 30Oct64

ENCL: 00

SUB CODE: FP

NO REF SOV: 007

OTHER: 008

ATD PRESS: 4064

NC

Card 2/2

ROGA, Blazej, prof. dr inz.; JASIENKO, Stefan, dr inz., adiunkt; RUSIN, Aleksandra, mgr inz., st. asystent; RUSIN, Emanuel, mgr inz., st. asystent

Sorption of organic compound vapors by coals and their solid carbonization products. Chemia Wroclaw no.10:3-28 '64.

1. Department of Chemical Technology of Coal of Wroclaw Technical University. Head: Prof. Roga (for Roga and Jasienko). 2. Section of Chemical Technology of Coal of the Central Institute of Mining, Katowice (for Aleksandra Rusin and Emanuel Rusin). Submitted March 1962.

VILKOV, L.V.; GOROKHOV, L.N.; MASTRYUKOV, V.S.; RUSIN, A.D.

Molecular mass and mass spectrum of 1,1-dimethylgermirene vapors. Zhur.fiz.khim. 38 no.11:2674-2675 N '64.

(MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

S/076/63/037/003/019/020
B101/B215

AUTHORS: Rusin, A. D., Tatevskiy, V. M.

TITLE: Formation heat of the radical BO_2

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 3, 1963, 716-717

TEXT: For the reaction $HBO_2 + OH = BO_2 + H_2O$ (1), the thermal effect $\Delta H_0^o = -0.3$ kcal/mole and the formation heat $\Delta H_0(BO_2) = 64 \pm 4$ kcal/mole were obtained as the result of a recent study. Further details have not yet been published. The data obtained by W. E. Kaskan et al. (J. Chem. Phys., 32, 1273, 1960, ibid., 34, 570, 1961) are discussed.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 10, 1962

Card 1/1

RUSIN, Andrzej; RYPNIEWSKA, Helena

Application of α-chymotrypsin drops to the conjunctival sac in patients with corneal changes. Klin. oczna 32 no.3:249-252 '62.

1. Z oddzialu chorob oczu w Szpitalu Ogolnym Nr I w Bydgoszczy Ordynator: dr med. E. Rusinowa.

(CHYMOTRYPSIN) (CORNEA) (OPHTHALMOLOGY)

RUSIN, A.I., inzh.; DASOYAN, M.A., kand.tekhn.nauk; FEDOROVA, N.N., inzh.

Phase composition of the positive electrodes of lead storage batteries. Elektrotekhnika 36 no.6:63 Je '65. (MIRA 18:7)

RUSIN, A.I., inzh.; DASOYAN, M.A., kand.tekhn.nauk

Effect of the crystalline modification of lead dioxide on the electrical characteristics of the positive electrode of a lead storage battery. Elektrotekhnika 36 no.2:53-55 F '65. (MIRA 18:4)

L 22955-66 EWP(k)/EWT(m)/T/EWA(d)/EWP(v)/EWP(t) IJP(c) JD/HM

ACC NR: AP6006406 SOURCE CODE: UR/0413/66/000/002/0146/0147

AUTHOR: Filin, N. A.; Kozlov, D. A.; Serebryakov, V. F.; Rusin, A. I.; Batin, A. P.

55

13

ORG: none

TITLE: Thermal diffusion method of lead coating of aluminum and its alloys. Class 48, No. 178259

27 27 18

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 146-147

TOPIC TAGS: metal diffusion plating, aluminum, metal coating, thermal diffusion, lead

ABSTRACT: An Author Certificate was issued for the lead coating of aluminum and its alloys in molten lead, treated with flux. To obtain a uniform diffusion layer with a strong metal-to-base bond, the aluminum surface is cleared from the oxide film in a flux containing 81% lead, 10% potassium chloride, and 9% lithium chloride. The aluminum is then saturated with lead containing 0.08 -- 0.1 calcium at 420C and a minimum holding time of 3 minutes. [LD]

18

SUB CODE: 11/ SUBM DATE: 11Apr64

2

UDC: 621.793.6

Card1/1 10

ACC NR: AP7004743 SOURCE CODE: UR/0413/67/000/001/0033/0033

INVENTOR: Beym, I. G.; Rusin, A. I.

ORG: none

TITLE: Negative comparing electrode for the remote control measurement of the density of the electrolyte in a lead storage battery. Class 21, No. 189901

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 33

TOPIC TAGS: storage battery, ~~storage~~ battery component, ELECTROLYTE, ELECTRODE POTENTIAL

ABSTRACT: An Author Certificate has been issued for a negative comparing electrode for the remote control measurement of the density of the electrolyte in a lead storage battery. This is accomplished by measuring the potential difference of the negative and positive electrodes. The negative comparing electrode contains a current conducting base with a paste deposited on it. In order to increase its measurement accuracy and operating life, this paste consists of Hg_2SO_4 with a 2—5 % admixture acid-resistant AKR-7 methacrystale plastic. [GS]

SUB CODE: 09/ SUBM DATE: 21Aug65
UDC: 621.355.5.035.21

Card 1/1

L 60455-65 EPF(n)-2/EPR/EWT(m)/EWP(i)/EWG(m)/EWP(b)/EWP(e)/EWP(t) Ps-4/
Pu-4 IJP(c) AT/WH/JD/JG

ACCESSION NR: AP5007572 S/0020/65/160/005/1133/1135
36
33
B

AUTHOR: Petrov, Yu. I.; Rusin, B. A.

TITLE: Disperse condensates of aluminum vapor on glass
7 14

SOURCE: AN SSSR. Doklady, v. 160, no. 5, 1965, 1133-1135, and insert facing p. 1134

TOPIC TAGS: aluminum vapor condensation, vacuum evaporation

ABSTRACT: The authors describe the apparatus which they used for vacuum-depositing aluminum on glass plates (see Fig. 1 of the Enclosure) and some interesting phenomena observed during the condensation of the aluminum vapor. The most interesting result was the formation of a deposit in the form of a fine concentric ring around the central specular deposit. Examination of both deposits with an electron microscope showed their structure to be similar and made up of particles at the limit of resolution of the instrument, i.e., $\lesssim$ 30 A. The results are attributed to the fact that in the vicinity of the evaporator (tungsten filament), the aluminum atoms combine into small aggregates, which, on colliding with molecules of the residual gas, are deflected into the region of the geometrical shade behind the opening of the diaphragm; the escape of groups of atoms from aluminum during vaporization is also

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ACCESSION NR: AP5007572

possible. The aggregates may be reflected off the plate and diaphragm several times before depositing on the glass, thus giving rise to a bell-shaped density distribution of the deposit. The effect of variations in the relative positions of the openings of the diaphragm on the configuration of the deposits is discussed, as are other geometrical parameters of the system. "The authors thank M. Ya. Gen and Ye. L. Frankevich for a helpful review of the work and a number of valuable suggestions." Orig. art. has: 4 figures.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 05Aug64

ENCL: 01

SUB CODE: MM, MT

NO REF SOV: 006

OTHER: 003

Card 2/3

L 60455-65
ACCESSION NR: AP5007572

ENCLOSURE: 01

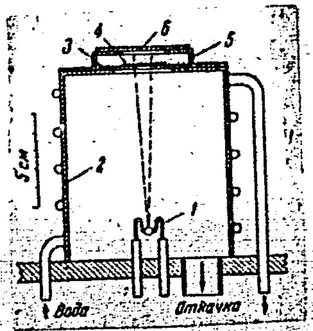

Fig. 1. Diagram of evaporator: 1 - tungsten wire with aluminum charge; 2 - brass screen cooled with circulating water; 3 - diaphragm with various openings; 4 - metal gate; 5 - copper support; 6 - polished glass plate

Card 3/3

RUSIN, C., ing.

[redacted].

New tubing scheme worked out by the State Enterprise for Mining Prospecting for the mine hydrogeology wells. Rev min 12 no.7:321-322 Jl '61.

YAYTSOV, I.I., brigadir; PAVLENKO, I.Ya.; ANTIPOV, V.A.; PETRENKO, Ye.V., kand.tekhn.nauk; RUSIN, D.A., inzh.

Produced 28,082 tons of coal in one month with the "Donbass-1" cutter loader. Ugol' Ukr. 6 no.11:9-10 N '62. (MIRA 15:12)

1. Upravlyayushchiy Shakhterskim trestom ugol'nykh predpriyatiy kombinata Rostovugol' Ministerstva ugol'noy promyshlennosti SSSR (for Pavlenko). 2. Glavnyy inzh. Shakhterskogo tresta ugol'nykh predpriyatiy kombinata Rostovugol' Ministerstva ugol'noy promyshlennosti SSSR (for Antipov). 3. Zamestitel' glavnogo inzhenera Artemovskogo ugol'nogo kombinata (for Petrenko).
(Donets Basin—Coal mines and mining)

ROGA, Blazej, prof. dr inz.; JASIENKO, Stefan, dr inz., adiunkt; RUSIN, Aleksandra, mgr inz., st. asystent; RUSIN, Emanuel, mgr inz., st. asystent

Sorption of organic compound vapors by coals and their solid carbonization products. Chemia Wroclaw no.10:3-28 '64.

1. Department of Chemical Technology of Coal of Wroclaw Technical University. Head: Prof. Roga (for Roga and Jasienko). 2. Section of Chemical Technology of Coal of the Central Institute of Mining, Katowice (for Aleksandra Rusin and Emanuel Rusin). Submitted March 1962.

ACCESSION NR: AT4015869 S/3055/63/000/002/0007/0025

AUTHOR: Rusin, F. S.

TITLE: Cathode losses in magnetrons

SOURCE: AN SSSR. Fizicheskaya laboratoriya. Elektronika bol'shikh moshchnostey (High-power electronics), no. 2, 1963, 7-25

TOPIC TAGS: magnetron, cathode loss, in phase wave, backward wave, cycloidal electron trajectory, anode current, cathode current, planar magnetron, electron kinetic energy, electronic efficiency, high frequency power, effect of magnetic field, magnetron oscillation, magnetron oscillator

ABSTRACT: The perturbed motion of electrons in a planar magnetron is considered with allowance for both the in-phase and the backward wave, for the purpose of determining the losses that are produced in the magnetron as a result of the fact that the electrons returning

ACCESSION NR: AT4015869

to the cathode have a higher energy than the thermal energy they possessed initially. Since the time of return of the electrons to the cathode is close to the period of the cycloid, the interaction with the backward wave cannot be neglected for the electrons returning to the cathode. The perturbation method is used to investigate the motion of the electrons on the first loops of their cycloidal motion and it is shown that the anode current is decreased by the backward wave and the cathode current is increased. The anode current decreases because some of the electrons return to the cathode within the same time interval. Expressions are obtained for the electron kinetic energy, the cathode losses, the electronic efficiency, and the high frequency power as a function of the magnetic field and of the power fed to a magnetron oscillator. It is shown that if the magnetron load is high and its anode efficiency is low the cathode losses can sometimes cause interruption in the oscillation with increasing power. "In conclusion, the author is grateful to P. L. Kapitsa for valuable critical remarks and L. A.

Card 2/3

ACCESSION NR: AT4015869

Vaynshteyn for advice and participation in a discussion of this work." Orig. art. has: 4 figures and 35 formulas.

ASSOCIATION: Fizicheskaya laboratoriya AN SSSR (Physics Laboratory, AN SSSR)

SUBMITTED: 00 DATE ACQ: 25Jan64 ENCL: 00

SUB CODE: GE, EE NO REF SOV: 002 OTHER: 000

Card 3/3

L 13781-65 ESD(gs)/ESD(t)

ACCESSION NR: AT4047281 S/3055/64/000/003/0231/0243

AUTHOR: Rusin, F. S.; Petrusevich, Yu. M. B

TITLE: Investigation of rod oscillations in a squirrel-cage resonator

SOURCE: AN SSSR. Fizicheskaya laboratoriya. Elektronika bol'shikh moshchnostey, no. 3, 1964, 231-243

TOPIC TAGS: oscillation theory, rod oscillation, resonator, squirrel cage resonator

ABSTRACT: The paper investigates oscillations set up in a closed system of rods forming a squirrel-cage resonator. It is shown that the oscillations along the rods are modified oscillations of the coaxial type with a wavelength determined by the total length of a rod and both end frames. The amplitude and frequency characteristics of the resonator depend strongly on the losses in separate rods. Analysis of an experimental frequency response curve of such a resonator showed that the individual resonances almost coalesce with each other and have a relatively low Q. The most accurate determination of the oscillation number (the index s, equal to the number of groups of rods which oscillate with a phase equal to 0 or π) was obtained by phase measurement. A comparison of the experimental data obtained with characteristics computed from formulas derived for a network of coupled cir-

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L 13781-65

ACCESSION NR: AT4047281

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cuits of lumped elements showed that such equivalent circuits represent the properties of squirrel-cage resonators with considerable fidelity. "The authors thank P. L. Kapitsa for presenting the problem, and L. A. Vaynshteyn for his constant interest and valuable advice." Orig. art. has: 7 figures and 21 formulas.

ASSOCIATION: Fizicheskaya laboratoriya AN SSSR (Physics Laboratory, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: EC

NO REF SOV: 003 OTHER: 000

Card 2/2

L 44809-66 EWT(1) GG

ACC NR: AP6032024

SOURCE CODE: UR/0386/66/004/006/0236/0239

59

55

B

AUTHOR: Rusin, F. S.; Bogomolov, G. D.

ORG: Institute of Physics Problems, Academy of Sciences SSSR (Institut fizicheskikh problem Akademii nauk SSSR)

TITLE: Generation of electromagnetic oscillations 21 in an open resonator

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 6, 1966, 236-239

TOPIC TAGS: resonator, electromagnetic wave oscillation, millimeter wave propagation, submillimeter wave, microwave oscillator

ABSTRACT: The authors explain first how a self-exciting generator using an open resonator can be realized by passing a straight-line beam of electrons over a periodic structure deposited on one of the mirrors of the open resonator. When the electron velocity is close to the phase velocity of one of the spatial-harmonics, an effective interaction takes place between the electron beam and the electromagnetic field of the open resonator, and at sufficiently large beam currents the "beam-resonator" system can become self excited. They then describe an experimental verification of the proposed generation method, in an instrument they named "orotron" 21 (acronymic for the Russian equivalent of "instrument with open resonator and reflecting grating") (Fig. 1). The described instrument is essentially a self excited generator for microwave oscillations with a nonrelativistic electron beam. The feedback is effected by the open resonator, making it possible to transform the incoherent radiation of the

L 44809-66

4

ACC NR: AP6032024

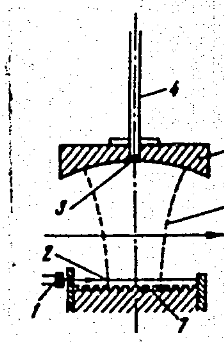

Fig. 1. Schematic diagram of the orotron (section): 1 - Cathode, 2 - electron beam, 3 - coupling aperture, 4 - waveguide, 5 - spherical mirror, 6 - field-caustic boundary, 7 - mirror with periodic structure.

electron beam passing over the periodic structure into coherent monochromatic radiation. The main characteristics of such a generator are: 1) Variation of the accelerating voltage with fixed distance between the open-resonator mirrors makes possible generation at several frequencies in a range larger than an octave. 2) Variation of the distance between mirrors effects continuous frequency tuning. 3) The orotron being a quasi-optical instrument, it is easily matched with other quasioptical systems, a specially important feature in the submillimeter band. The preliminary experiments and the theoretical estimates give grounds for hoping that the proposed method will make it possible to progress from the millimeter band to the submillimeter one. This investigation will be described in greater detail in the collection "Elektronika bol'shikh moschnostei" (High Power Electronics), No. 5 or 6. The authors thank P. L. Kapitsa for support, S. P. Kapitsa and L. A. Vaynshteyn for valuable advice and numerous discussions, and M. B. Golant for technical help. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 14Jun64/ ORIG REF: 002/ OTH REF: 001

Card 2/2 blg

RUSIN, G.

A friendly tournament. Radio no.5:18 My '62. (MIRA 15:5)

1. Chlen komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu zavoda "Serp i molot", Moskva.
(Radio operators) (Chess tournaments)

GORENBEYN, Ye.Ya.; RUSIN, G.G.

Complex formation of $AlBr_3$ and LiBr, Al_2Br_6 with tetrahydrofuran in benzene and nitrobenzene. Zhur. neorg. khim. 10 no.2:458-461 F '65. (MIRA 18:11)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya. Submitted Apr. 8, 1964.

GORENBEYN, Ye.Ya.; RUSIN, G.G.

Solutions of LiBr. Al_2Br_6 in terahydrofuran. Zhur. neorg. khim. 9 no.10:2463-2468 O '64. (MIRA 17:12)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya.

GORENBEYN, Ye.Ya.; RUSIN, G.G.

Effect of dielectric constant of the solvent and of the nature of anions on the viscosity of lithium halide solutions. Zhur. fiz. khim. 39 no.5:1211-1219 My '65. (MIRA 18:8)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya, Kiyev.

HUSIN, L.

School of technicians. Voen.znan. 36 no.6:3-4 Je '60. (MIRA 13:6)

1. Starshiy inspektor TSentral'nogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.
(Khmelevka--Military education)

SOV/120-58-4-24/30

AUTHORS: Rusin, A. D. and Tatevskiy, V. M.

TITLE: A Time-Scan Spectrograph (Spektrograf s razvertkoy vo vremeni)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 101-102 (USSR)

ABSTRACT: A medium-quartz spectrograph is fitted with a rotating cylinder cassette, electrically interlocked with the shutter; the minimum rate of motion of the spectrum across the film is 500 mm/sec, the maximum 8000 mm/sec; time marks are inserted by chopping the incoming beam. The spectrograph is of aperture f/22 and is used in studies on H_2/O_2 explosions; the pressure wave in the vessel and the spectra are correlated in time by using an auxiliary photocell coupled to the chopper to mark on the pressure record. The system can also be used

Card 1/2

SOV/120-58-4-24/30

A Time-Scan Spectrograph

The paper contains 2 figures, no tables and 7 references, 2 of which are Soviet

ASSOCIATION: Khimicheskiy fakul'tet MGU (Chemistry Dept., MGU)

SUBMITTED: July 17, 1957.

Card 2/2

RUSIN, Andrzej; MROZINSKI, Bernard

Binocular protective dressing following cataract surgery. Klin. oczna 27 no.2:187-189 1957.

1. Z Oddzialu Chorob Oczu Szpitala Wojewodzkiego w Bydgoszczy Ordynator: dr. med. E. Rusinowa. Bydgoszcz, pl. Weyssenhofa 7 m. 2.
    (CATARACT EXTRACTION
        postop. binocular protective dressing, design & use (Pol))
    (BANDAGING AND DRESSING
        binocular protective dressing following cataract extraction, design (Pol))

RUSIN, Andrzej; MROZINSKI, Bernard

[redacted]

Binocular protective dressing following cataract surgery. Klin. oczna 27 no.2:187-189 1957.

1. Z Oddzialu Chorob Oczu Szpitala Wojewodzkiego w Bydgoszczy Ordynator; dr. med. E. Rusinowa. Bydgoszcz, pl. Weyssenhofa 7 m. 2.

(CATARACT EXTRACTION
postop. binocular protective dressing, design & use (Pol))

(BANDAGING AND DRESSING
binocular protective dressing following cataract extraction, design (Pol))

Rusin, A. D.

21

5

The spectroscopic investigation of combustion reactions [illegible] Mal'tsev, A. D. Rusin, and [illegible] (M. V. Lomonosov State Univ., Moscow) [illegible] 31, [illegible]

[illegible]

EXCERPTA MEDICA Sec.12 Vol.12/2 Ophthalmology Feb. 58

RUSIN, A.

300. **BINOCULAR PROTECTIVE DRESSING AFTER THE OPERATION OF CATARACT.** Okularowy opatrunek ochronny po operacji zacmy. Rusin A. and Mroziński B. Odd. Chor. Oczu Szpit. Wojewódzkiego. Bydgoszcz. KLIN. OCZNA 1957, 27/2 (187-189) Illus. 1

A commonly used dressing (metallic) with 10 D lens put in the centre. The authors suggest that patients feel better when 2-3 days after the operation they can see distinctly.

Szmyt - Lódź

RUSIN, L. (Velikolukskaya oblast')

District committee chairman. Voen.znan. 31 [i.e. 32] no.4:9 Ap '56.
(MLRA 9:8)

(Shabanov, Ivan Nikolaevich)

Rusin, A.P.

L-1

USSR/Cultivated Plants - General Problems.

Abs Jour : Ref Zhur - Biologiya, No 16, 25 Aug 1957, 69152

Author : Skryabin, N.S., Rusin, A.P.
Title : Utilization of Water Soils in Gorkov District.

Orig Pub : Zemledelie, 1956, No 1, 44-48

Abstract : Information is given on experimental utilization of the waterlogged peat bogs of the Kudma River, drained in 1940-1943. The ploughing down of bushes was conducted by a refitted plough PKB-56. After breaking up the soil layers with heavy disk harrows, the section was ploughed over and disked the following year. After sowing timothy grass, fescue and brome grass (25 kg per hectare), the section was rolled by a tractor-driven water spraying roller. The hay crop in the first year was 40 to 42, and in 1955, 50-60 centners per hectare. In sections not covered by bushes, the seeding of grasses was conducted the same year as breaking the

Card 1/2

SOV-109-3-4-12/28

AUTHORS: Penin, N. A., Rusin, ~~F. S.~~ and Skvortsova, N. Ye.

TITLE: Input Impedances of Germanium and Silicon Detectors at Centimetre Wavelengths (Vkhodnyye soprotivleniya germaniyevykh i kremniyevykh detektorov v diapazone santimetrovykh voln)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 4, pp 543-546 (USSR)

ABSTRACT: It is assumed that the equivalent input circuit of a rectifier diode can be represented by a parallel input capacitance $C_{п}$, a series inductance L and an RC circuit representing the impedance of the rectifying junction. The elements $C_{п}$ and L represent the inter electrode capacitance and the whisker inductance of the detector, and they are independent of the currents passing through the detector. The junction resistance R and the capacitance C_D plus C_z (see Fig.1) are functions of frequency and the biasing

Card 1/3

SOV-109-3-4-12/28

Input Impedances of Germanium and Silicon Detectors at Centimetre Wavelengths

currents passing through the junction. The overall input impedance of the detector is expressed by Eq.(1). The elements R, C_D and C_z are expressed by Eqs.(2) and (3), where

$$C_{z0} = S\sqrt{\frac{\varepsilon q N_d}{8\pi\varphi_k}}$$

is the charge capacitance in the absence of an external bias, S is the contact area, φ_k is the contact potential difference, I is the current passing through the contact, I_s is the saturation current of the junction and τ is the effective lifetimes of the charges. Eq.(1) can be used to construct the impedance locus of the detector. The resulting impedance circle is expressed by Eq.(4); the centre of the circle is given by the coordinates expressed by Eqs.(5) and (6), while the radius of the circle is determined from Eq.(7). Eq.(4) was used to construct the impedance loci for a germanium detector having a resistivity of 0.006Ω.cm

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SOV-109-3-4-12/28

Input Impedances of Germanium and Silicon Detectors at Centimetre Wavelengths

for wavelengths of 21, 6.2 and 3.2 cm. The resulting curves are shown in Fig.2. The impedances of the same detector were measured experimentally and the results are also plotted in Fig.2. It was found that there was a good agreement between the calculated and the experimental results. Eqs.(1), (2) and (3) were used to determine the frequency dependence of the detector input impedance and the resulting curves are shown in Fig.3. The author expresses his gratitude to S. G. Kalashnikov for valuable advice and constructive criticism. The paper contains 3 figures and 4 references, of which 3 are Soviet and 1 English.

SUBMITTED: May 28, 1957

1. Detectors (RF)--Impedance 2. Impedance--Measurement 3. Germanium--Applications 4. Silicon--Applications 5. Mathematics --Applications

Card 3/3

PETROV, Yu.I.; RUSIN, B.A.

Dispersed condensates of aluminum vapor on glass. Dokl. AN SSSR 160 no.5:1133-1135 F '65. (MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR. Submitted August 10, 1964.

RUSIN, F.S.; PETRUSEVICH, Yu.M.

Study of rod oscillations in a squirrel-cage type resonator. Elektron. bolsh. moshch. no.3:231-244 '64. (MIRA 17:9)

RUSIN, F.S.; SKVORTSOVA, N.Ye.; SOKOLOV, Yu.F.

Methods for determining the parameters of the rectifying contact of point-contact detectors for superhigh frequency. Poluprov.prib. i ikh prim. no.3:13-30 '58. (MIRA 12:4)
(Radio detectors)

SOV/58-59-7-16214

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 227 (USSR)

AUTHORS: Rusin, F.S., Skvortsova, N.Ye., Sokolov, Yu.F.

TITLE: Methods for Determining the Parameters of the Rectifying Contact of Point Microwave Detectors

PERIODICAL: V sb.: Poloprovodnik. pribory i ikh primeneniye. Nr 3. Moscow, "Sov. radio", 1958, pp 13 - 30

✓

ABSTRACT: The authors describe methods for determining the basic parameters of the point contacts of microwave detectors.>-5 They estimate the maximum microwave power that is permissible under the described measurement methods. They describe methods of measuring the impedance Z of the rectifying contact, from whose dependence on the constant displacement current it is easy to obtain the values of C_0 (the charge capacity,) r (the resistance against fanning out through the thickness of the semiconductor), and τ (the lifetime of the minority carriers). They

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Methods for Determining the Parameters of the Rectifying Contact of Point Microwave Detectors

provide a method for determining the parameters of the rectifying contact from the dependence of the detector's voltage sensitivity βu on the constant positive displacement current.

The authors' résumé

RUSIN, F.S.

PENIN, N.A.; RUSIN, F.S.; SKVORTSOVA, N.Ye.

Input impedances of germanium and silicon detectors at centimeter waves. Radiotekh. i elektron. 3 no.4:543-546 Ap '58. (MIRA 11:4)

(Semiconductors) (Microwaves)

GORENBEYN, Ye.Ya.; RUSIN, G.G.

Relation between the dielectric constant of the solvent and the viscosity of electrolyte solutions. Part 3: Systems lithium halides - solvent (mixture of CH_3COOH and $(CH_3)_2CO$). Ukr. khim. zhur. 31 no.3:282-286 '65. (MIRA 18:4)

GORENBEYN, Ye.Ya.; RUSIN, G.G.

Effect of alkali metal cations on the viscosity of toluene and xylene solutions. Ukr. khim. zhur. 30 no.6:582-589 '64. (MIRA 18:5)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya.

CEZAK, Leszek; HRYNIEWICZ, Zofia; RUSIN, Jan; PILAWSKA, Halina

Result of studies on the method of feeding children in one township of Szczecin Voivodeship. Pt.1. Roczn panst zakl hig 15 no.3:277-282 '64.

1. Voivodeship Station of Sanitation and Epidemiology, Szczecin. Director: [lek. med.] J.Markowicz.

PILAWSKA, Halina; CEZAK, Leszek; HRYNIEWICZ, Zofia; RUSIN, Jan

Evaluation of the state of health, nutrition and physical development of village children in a village of the Szczecin Voivodeship. Pt.2. Rocz panst zakl hig 15 no.4:379-388 '64.

1. Institute of Hygiene, Pomeranian School of Medicine, Szczecin. Head: [prof. dr] I.Gadzikiewicz.

RUSIN, Karel

Fast setting mixture on the basis of water glass and ferrosilicon.
Slevarenstvi 12 no.6:235-239 Je '64.

1. Chair of Founding, Higher School of Technology, Brno.

RUSIN, Karel

Graphitization wash of metallic chills. Slevarenstvi 12 no.4:148-150 Ap '64.

1. Elektrotechnicke zavody J. Fucika, Brno.

RUSIN, Karol

Higher quality brake drums. Slevarenstvi 12 no.5:183-184 My '64.

1. Elektrotechnicke zavody J.Fucika, Brno.

RUSIN, Karel

Fast hardening mixture on the basis of water glass and dextroner. Slevarenstvi 10 no.12:489-491 D '62.

1. Elektrotechnicke zavody J. Fucika, Brno.

RUSIN, L. (Ufa)

By word and deed. Kryl. rod. 14 no.8:27 Ag '63.
(MIRA 16:8)

(Ufa--Aerial sports)

NESTERENKO, I.; PONYATOVKSIY, S.; RUSIN, L. (Leningrad); MIKHAYLOV, G.

Facts, events, people. Kryl. rod. 15 no.9:20-21 S '64. (MIRA 18:1)

1. Rukovoditel' aviomodel'noy laboratorii, Chernovtsy, UkrSSR (for Mikhaylov).

RUSIN, L.

Together forever! Voen. znan. 39 no.12:19 D '63.
(MIRA 17:1)

RUSIN, L.

On the right path. Voen.znan. 36 no.4:15-16 Ap '60.
(MIRA 13:4)

1. Starshiy inspektor TSentral'nogo komiteta Dobrovol'nogo obshchestva sodeyastiya armii, aviatsii i flotu SSSR.
(Sverdlovsk--Military education)

RUSIN, L.

At the starting lines of the All-Union Spartakiada. Voen. znan. 36 no.8:7 Ag '60. (MIRA 13:7)
(Sports)

RUSIN, L.

On the basis of voluntary mass initiative. Voen. znan. 35 no.10:11-12
O '59. (MIRA 12:12)

1. Starshiy inspektor TSentral'nogo Komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.
(Armenia--Military education)

RUSIN, L. (Yaroslavl')

Beacon light is burning. Za rul. 20 no.12:8-9 D '62.
(MIRA 15:12)
(Yaroslavl—Motor vehicles—Societies, etc.)

RUSIN, L. (Ufa)

On the right road. Za rul. 21 no.7:9 Jl '63. (MIRA 16:8)

1. Starshiy inspektor TSentral'nogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.
(Ufa—Automobile drivers—Education and training)

RUSIN, L.I.; SAMARSKIY, G.I.; GINZBURG, K.Ya.; VAYNSHTEYN, Yu.I.

Stationary mercury dropping electrode. Metod. anal. khim. reak. i prepar. no.5/6:42-46 '63. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

KAPRALOVA, G.A.; RUSIN, L.Yu.; CHAYKIN, A.M.; SHILOV, A.Ye.

Elementary reactions of molecular fluorine. Dokl. AN SSSR 150 no.6:1282-1284 Je '63. (MIRA 16:8)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom N.N.Semenovym.

(Fluorine)

KAPRALOVA, G.A.; TROFIMOVA, Ye.M.; RUSIN, L.Yu.; CHAYKIN, A.M.; SHILOV, A.Ye.

Experimental evidence for branching in chain reactions involving molecular fluorine. Kin. i kat. 4 no.4:653-654 Jl-Ag '63. (MIRA 16:11)

1. Institut khimicheskoy fiziki AN SSSR.

[illegible], L.Yu.; CHAYKIN, A.M.; SHILOV, A.Ye.

Electron paramagnetic resonance spectra of halogen atoms in gas-phase branched chain reactions. Kin.i kat. 5 no.6:1121-1123 N-D '64. (MIRA 18:3)

1. Institut khimicheskoy fiziki AN SSSR.

L 12587-63 EPR/EWP(j)/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD Ps-4/Pc-4/
Pr-4 RM/WW/JD
ACCESSION NR: AP3003225 S/0020/63/150/006/1282/1284
76
75

AUTHOR: Kapralova, G. A.; Rusin, L. Yu.; Chaykin, A. M.; Shilov, A. Ye.

TITLE: Elemental reactions of molecular fluorine

SOURCE: AN SSSR. Doklady, v. 150, no. 6, 1963, 1282-1284

TOPIC TAGS: molecular fluorine, fluorine, hydrogen, carbon, frozen olefin, ethylene, divinyl, hydrogen iodide, luminescence, flame diffusion, methane

ABSTRACT: The great reactive capacity of molecular fluorine, as compared to other halogens, is explained by its affinity for H, C, and metals, and the high energy of its bonding with C, H, and Me (over 100 kcal/mol) accounts for certain features of the reactions illustrated here, some of which involve the release of enormous amounts of energy and may lead to chain reactions. The authors give the results of their studies on the kinetics and mechanism of the 2 types of elemental reaction shown in equations (1) and (2) of the Enclosure. At liquid N sub 2 temperatures, type (2) reactions occur with the formation of free radicals by gaseous F sub 2 on interaction with frozen olefins. Measured with a thermocouple vacuum gage to determine the fall of F sub 2 pressure, the reaction was too fast for measurement when ethylene and divinyl were used. With chloro-substituted ethylene, the

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ACCESSION NR: AP3003225 O

reaction rate decreased. In detailed kinetic studies on trichloroethylene bound to F sub 2, measurements of the surface size of the frozen olefin by the BET method showed that the quantity of F sub 2 molecules taken up by the olefin at -196C was almost identical to the number of olefin molecules at the surface; deeper layers reacted only when the temperature was increased. The energy of the reaction of C sub 2 HCl sub 3 was ca. 0.5 kcal/mol over the temperature range -196C to -163C; thus for olefins with a smaller number of Cl atoms in the molecule, especially ethylene, the energy of activation must be practically nil. Flame-diffusion measurements of the reaction rate of molecular F sub 2 with gaseous ethylene by Kistyakovskiy's method were made to study the reactions shown in equations (3), (4), (5), (6) of the Enclosure. Although the energy of activation was quite low, it was decidedly higher than in the surface reaction of F sub 2 with olefins. The reaction of F sub 2 with hydrogen iodide was accompanied by distinct luminescence, the spectrum corresponding to the known spectrum of excited FI* molecules. With an excess of HI, the stable reaction products were molecular iodine and hydrogen fluoride. Flame diffusion determination of the velocity constants in experiments in which F sub 2 was added via a nozzle to a stream of HI was compared with initial flame-diffusion heating under different flow conditions. The good correspondence indicates that rate of luminescence and heat emission are functions of the same process. Flame-diffusion studies showed little reaction

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L 12587-63
ACCESSION NR: AP3003225

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between F sub 2 and CH sub 4 or HCl under comparable conditions and these reactions were practically thermo-neutral, in contrast to the markedly exothermic reactions of F sub 2 with olefins and HI. These findings further confirm the close relationship between activation energy and thermal effect, which is evidently analogous to Polyani's law for radical reactions. The paper was presented by Academician N. N. Semenov on 21 Feb 1963. Orig. art. has: 2 figures and 6 equations.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 00	DATE ACQ: 24Jul63	ENCL: 01
SUB CODE: CH	NO REF SOV: 003	OTHER: 007

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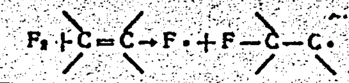
L 12587-63
ACCESSION NR: AP3003225

0

ENCLOSURE: 1

$$F_2 + RH \rightarrow F\cdot + HF + R\cdot, \quad (1)$$



$$F_2 + C{=}C \rightarrow F\cdot + F-C-C\cdot \quad (2)$$

$$F_2 + C_2H_4 \rightarrow FCH_2-CH_2\cdot + F\cdot, \quad (3)$$

$$F\cdot + C_2H_4 \rightarrow F-CH_2-CH_2\cdot\cdot, \quad (4)$$

$$FC_2H_4\cdot + F_2 \rightarrow C_2H_4F_2 + F\cdot, \quad (5)$$

$$2C_2H_4F\cdot \rightarrow C_4H_8F_2. \quad (6)$$

Card 4/4

RUSIN, M., tokar', udarnik kommunisticheskogo truda

Heartfelt gratitude. Sov.profsoiuzy 7 no.20:8 0 '59.
(MIRA 12:12)

1. Moskovskiy zavod im. Budennogo.
(Moscow--Oil hydraulic machinery)
(Hours of work)

RUSIN, M.I.

Determining the jump of geostrophic wind on a frontal surface. Trudy Len.gidromet.inst. no.18:129-130 '63. (MIRA 18:1)

RUSIN, N.M., starshiy nauchnyy sotrudnik; RABINOVICH, V.F. [deceased] nauchnyy sotrudnik

Comparative evaluation of heavy metal salt precipitation methods with gaseous hydrogen sulfide and sodium sulfide. Gig.i san. 26 no.1:66-69 Ja '61. (MIRA 14:6)
(METALS) (PRECIPITATION) (SULFIDES)

1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

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Wet combustion of food products for determination of
arsenic and tin. N. M. Rusin and V. F. Rabinovich.
Hig. i Sanit. 1939, No. 9, 48-51; *Khim. Referat. Zhur.*
1940, No. 5, 81.—To a 10-40-g. sample in a 250-750-cc.
Kjeldahl flask add 25-50 cc. of 10% HNO_3 and a pinch of
ground glass treated with a mixt. of HNO_3 and H_2SO_4.
Shake the contents of the flask, let stand for 5-10 min.;
for detn. of As, add 10 cc. of concd. H_2SO_4, for detn. of
Sn 25 cc., and shake. Heat to boiling and add slowly
from a dropping funnel concd. HNO_3. When the liquid
is decolorized and H_2SO_4 fumes begin to form in the flask,
discontinue the addn. of HNO_3 and boil for 10 min. To
remove traces of N oxides add 10-20 cc. of water, boil
until H_2SO_4 vapors are formed and test with diphenyl-
amine. The combustion is completed after 1.5-2.0 hrs.
instead of 2-3 days, and the amt. of HNO_3 required for
the detn. is $^1/_2$-$^1/_4$ of that required by the previous method.
W. R. Henn

COMMON ELEMENTS

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

RUSIN, N. M.; ANDRONOVA, G. P.

Benzene Hexachloride

Organoleptic properties of food products treated by DDT or hexachloran. Gig. i san. No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

RUSIN, N.M.; SARAIKINA, P.F.

Determination of fat in curdled milk, acidophyline, and kefir. Vopr. pitan. 13 no1:30-33 Jan-Feb. 1954.
(CIML 25:5)

1. Of the Department of Food Hygiene, Central Scientific-Research Sanitary Institute imeni F.F. Erisman, Moscow.

RUSIN, N.M.

Hygienic evaluation of food products treated with Thiofos.
N. M. Rusin and G. P. Andronova. *Gigiena i Sanit.* 1954,
~~No. 10, 20-23.~~—Thiofos (parathion) applied to food prod-
ucts during the vegetative period in the form of 0.03-0.05%
emulsions so that not over 0 mg./kg. residue was left after
3 days did not cause any detectable flavor. At these levels
no toxic results were observed with mice. A higher residue
of parathion gave a bitter taste and made the food unsuit-
able for consumption. Vegetables treated with parathion
and stored 5-7 days sometimes still retained the taste but
were not toxic when the above residual limit was not ex-
ceeded. Parathion was detd. by colorimetry in aq. NaOH.
The insecticide was used in the form of an emulsion formula-
tion (unspecified emulsifier) named NIUIF-100.
G. M. Kosolapoff

Rusin, N. M.

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\ **Hygienic evaluation of food products treated with benzene hexachloride or DDT.** N. M. Rusin and G. P. Andronova (Erisman Sci. Research Sanit. Inst.). *Gigiena i Sanit.* 1954, No. 6, 34-9.—Examn. of various food products (vegetables, seeds, and grain products) that had been treated with BHC or DDT showed that such treatment leaves behind an unpleasant taste and odor. The process of breadmaking does not appear to detoxicate these substances. BHC or DDT applied to plants during their vegetative period yield food products which still contain org. Cl but do not appear to be toxic to animals. Taste and odor are suggested as a method for hygienic evaluation of such products.

G. M. Kosolapoff

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RUSIN, N.M.

②

Hygienic evaluation and control of grain and grain products treated with Cartox. N. M. Rusin and G. P. Andronova. *Gigiena i Sanit.* 1954~~; No. 4, 25-8.~~—Cartox (ethylene oxide-CO_2 mixt.), when used for grain treatment, does not leave a detectable ethylene oxide residue after 2 months' exposure in the open, provided the moisture content is 14% or lower. At 16% moisture content the grain material does not retain ethylene oxide and does not acquire toxic properties, but it does retain some degradation products which cause a higher than normal acidity in bread baked from such grain. G. M. Kosolapoff

Rusin, N.M.

AID P - 2461

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 8/18

Authors : Rusin, N. M., Kand. of Biol. Sci., Vasil'yeva, O. I., ~~Kharchenko,~~ V. G., Scientific Workers

Title : Hygienic evaluation of agricultural food products processed with "Karbofos I"

Periodical : Gig. i san., 6, 38-44, Je 1955

Abstract : Discusses the toxicity and changes in taste and smell of vegetable foodstuffs protected against vermin with the Soviet insecticide, ("Karbofos I") a dark brown liquid with unpleasant smell (the formula of this chemical compound is given in the article). The authors present their method of determining, the "Karbofos" content of products. Tests with animals and testing of products are described. From the hygienic point of view, there are no objections against the use of this insecticide in moderate doses. 5 tables.

Institution: Scientific Research Institute of Sanitation im. Erisman.

Submitted : Feb. 23, 1955